

WHAT IS CLAIMED IS:

1. A storage medium having a plurality of tracks, the storage medium comprising:

a plurality of data sectors on each track;

a plurality of first servo sectors on each track, each first servo sector having a first length; and

a plurality of second servo sectors on each track, each second servo sector having a second length, the first length being different from the second length.

2. The storage medium of claim 1 wherein:

each first servo sector comprises a first synchronization gap and a plurality of servo marks, each first synchronization gap containing no servo marks, each first synchronization mark having a third length; and

each second servo sector comprises a second synchronization gap and a plurality of servo marks, each second synchronization gap containing no servo marks, each second synchronization gap having a fourth length, the third length being different from the fourth length.

3. The storage medium of claim 1 wherein the third length is less than about three servo clock cycles, and the fourth length is less than about seven servo clock cycles.

4. The storage medium of claim 1 wherein the third length is about one servo clock cycle.
5. The storage medium of claim 1 wherein a selected servo sector on each track comprises an index mark for indicating a circumferential position of the storage medium, the index marks aligned substantially radially on the storage medium.
6. A storage medium having a plurality of tracks, the storage medium comprising:
 - a plurality of data sectors on each track; and
 - a plurality of servo sectors on each track, the number of servo sectors per track being greater than 200 servo sectors per track;
 - each servo sector comprising a plurality of servo marks; and
 - each servo sector having a gap, the gap having no servo marks, the length of gap being less than 7 servo clock cycles.
7. The storage medium of claim 6 wherein the number of servo sectors is greater than 1000 servo sectors per track.
8. The storage medium of claim 6 wherein the number of servo sectors is greater than 2000 servo sectors per track.
9. The storage medium of claim 6 wherein the length of the gap is less

than 4 servo clock cycles.

10. A storage medium having a plurality of tracks, comprising:

a plurality of data sectors on each track;

a plurality of servo sectors on each track;

each servo sector comprising a first location and a second location for a reset mark, wherein if the reset mark is located in the first location the reset mark has a first value, and if the reset mark is located in the second location the reset mark has a second value, and the values of reset marks of the plurality of servo sectors of a track represents a track number.

11. The storage medium of claim 10 wherein a selected servo sector on each track comprises an index mark for indicating a circumferential position of the storage medium, the index marks aligned substantially radially on the storage medium.

12. The storage medium of claim 10 wherein a first servo sector comprises:

a first wobble bit, the center of the first wobble bit located between a first track and a second track, the second track being adjacent to the first track; and

a second wobble bit, the center of the second wobble bit located between the second track and a third track, the third track being adjacent to the second track.

13. The storage medium of claim 12 wherein a second servo sector

comprises:

a third wobble bit, the center of the third wobble bit located proximate to the first track; and

a fourth wobble bit, the center of the fourth wobble bit located proximate to the second track, and the center of the fourth wobble bit offset circumferentially along the second track from the center of the third wobble bit.

14. The storage medium of claim 10 wherein the plurality of servo sectors comprise:

a plurality of first servo sectors on each track, each first servo sector having a first length; and

a plurality of second servo sectors on each track, each second servo sector having a second length, the first length being different from the second length.

15. A storage medium having a plurality of tracks, the storage medium comprising:

a first servo sector on a selected track comprising:

a first wobble bit, the center of the first wobble bit located proximate to a first track; and

a second wobble bit, the center of the second wobble bit located proximate to a second track, the second track adjacent to the first track, and the center of the second wobble bit offset circumferentially along the second track from the center of the first wobble bit; and

a second servo sector on the selected track, the second servo sector adjacent to the first servo sector, the second servo sector comprising:

a third wobble bit, the center of the third wobble bit located between the first track and the second track; and

a fourth wobble bit, the center of the fourth wobble bit located between the second track and a third track, the third track being adjacent to the second track.

16. The storage medium of claim 15 further comprising:

a plurality of first servo sectors on each track, each first servo sector having a first length; and

a plurality of second servo sectors on each track, each second servo sector having a second length, the first length being different from the second length.

17. The storage medium of claim 15 wherein each servo sector comprises a first location and a second location for a reset mark, wherein if the reset mark is located in the first location the reset mark has a first value, and if the reset mark is located in the second location the reset mark has a second value, and the values of reset marks of the plurality of servo sectors of a track represents a track number.

18. The storage medium of claim 15 wherein each servo sector comprises:

a reset mark indicating the beginning of a servo sector;

a synchronization mark for synchronization of a reading device; and

a gap located between the reset mark and the synchronization mark, the gap

having no servo marks.

19. A disk drive for reading data from a storage medium having a plurality of tracks divided into a plurality of zones, each track having a track number encoded into the track, the disk drive comprising a read head for reading data along a track and the track number of each track, the disk drive comprising:

a phase lock loop frequency generator that generates a first frequency derived from locking a servo signal from the storage medium;

a multiplying phase locked loop that multiplies the first frequency by a variable to derive a second frequency for use in reading data marks, the variable based upon the track number read by the disk drive; and

a reading device that uses the first frequency to read servo marks and the second frequency to read data marks.

20. A method for aligning a reading device with a track of a storage medium, the method comprising:

reading a first signal from a second set of wobble marks in a second servo sector;

reading a second signal representing a location of the reading device with respect to the track;

determining a third signal based on the first and second signal; and

repositioning the reading device based the third signal.

21. The method of claim 20 wherein determining a third signal comprises averaging the first and second signal.

22. The method of claim 20 wherein determining a third signal comprises performing a weighted average of the first and second signal.

23. The method of claim 20 wherein reading the second signal comprises reading the first signal from a first set of wobble marks in a first servo sector.

24. The method of claim 20 wherein reading the second signal comprises reading a previously determined third signal.

25. The method of claim 20 further comprising storing a plurality of the first signals as prior signals.

26. The method of claim 25 wherein determining the third signal comprises determining the third signal based on a weighted average of the first and prior signals.

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